Big Questions Advanced Topic Analysis

2016-2017 Topic Analysis

Resolved: Science leaves no room for free will.

The “Big Questions” debate series—made possible by a generous grant from the John Templeton Foundation—gives students the opportunity to think critically about the place of humanity in the natural world by asking them to analyze and debate the best arguments on each side of a series of topics at the intersection of human nature, science, and ethical life. The 2016-2017 Big Questions topic is, “Science leaves no room for free will.”

This topic analysis will serve as a brief introduction to this year’s topic. It is intended primarily to familiarize you with the core interpretive questions raised by our topic. In other words, it is intended to help you understand exactly what questions are being raised by the topic, what the primary areas of debate will be, and what students will need to prove in order to successfully affirm or negate the topic.

Secondarily, this analysis briefly reviews some of the most common and interesting arguments in favor of each side of the topic. In subsequent topic analyses, we will zero in on particular arguments on both sides of the topic, treating them in further depth. The aim here is only to point you in various directions for further research. Toward that end, an initial bibliography of sources for further research is also included. The sources included were selected primarily on the basis of being approachable and clear—but still intellectually rigorous—texts for introducing students to this year’s topic.

Defining the terms of the debate

When we approach a new topic for debate, a good first step is to define the *terms* of the topic. Without a clear understanding of a topic’s key terms, we will not know what either side needs to prove over the course of the debate in order to win. As we will see, the definition of terms is especially important for our topic this year because much of the debate about the relationship between free will and science turns on how we choose to answer preliminary questions like, “What *is* free will?” In other words, what abilities does a person need to possess in order for us to be willing to affirm that they possess free will? Here are some initial considerations about the key terms in our topic.

“Science”

As participants in contemporary life, we are all at least loosely familiar with the character of science as an investigative methodology, an explanatory enterprise, and a body of knowledge. Perhaps surprisingly, however, the proper definition of “science” is an area of live dispute. Still, for our purposes we can come to a sufficient understanding of the term simply by identifying a number of elements that are commonly at play in definitions (and disputes about the proper definition) of science:

- Science involves a systematic method of acquiring knowledge about and explanations of the natural world through observation and experimentation.
- Science aims to achieve (or, at least approach) a coherent and comprehensive understanding of the natural world.
- Science aims to identify a set of general laws that govern the structure and behavior of the natural world.
- Science seeks to test hypotheses against observable physical evidence.
- Science is (or produces) an organized body of knowledge about the natural world.

In asking whether *science* leaves room for free will, we are really being asked to consider two related, but distinct, ways that science might be incompatible with the existence of free will:

(1) On the one hand, it might be claimed that a particular experimental finding (or body of experimental findings) or body of observational evidence poses a challenge to the belief in the existence of free will. For example, those who claim that science denies the existence of free will often cite the experimental findings of neurobiologist Benjamin Libet. They claim that Libet's experiments demonstrate that our "decisions" to act are made unconsciously. Therefore, they claim, our "decisions" could not be manifestations of free will, since we are not so much as aware of those "decisions" at the time at which they are made.[1] Setting aside the details of Libet's experiments, as well as the veracity of the conclusions drawn from them, we can see that the challenge to free will being posed here is that *a particular set of experimental findings disprove the existence of free will*.

(2) On the other hand, it might be claimed that belief in the basic principles of scientific inquiry, scientific explanation, or the scientific worldview is incompatible with belief in free will. Let us take an example. French mathematician Pierre-Simon Laplace wrote:

"We may regard the present state of the universe as the effect of its past and the cause of its future. An intellect which at a certain moment would know all forces that set nature in motion, and all positions of all items of which nature is composed, if this intellect were also vast enough to submit these data to analysis, it would embrace in a single formula the movements of the greatest bodies of the universe and those of the tiniest atom; for such an intellect nothing would be uncertain and the future just like the past would be present before its eyes."[2]

Laplace was expressing a view commonly referred to as determinism: the complete description of the universe at any point in time combined with a complete set of the laws that govern the natural universe entails a complete set of everything that is true about the universe (including, therefore, everything that has ever happened and everything that *will* ever happen).

Often, those who argue for the truth of determinism argue that a commitment to the basic explanatory ambitions of the natural sciences simply requires belief in determinism. They may further claim that determinism is incompatible with the existence of free will because we cannot plausibly be said to freely choose what we do if what we do was determined long before *we* were even in the picture. Now, one could debate whether belief in science requires belief in determinism. One could also debate whether belief in determinism requires disbelief in free will. All of this is quite thorny, and we do not need to pursue the question further here. The main point is this: determinists of the sort just described are not primarily making the claim that this or that experimental finding poses a challenge to the existence of free will. They are claiming something more basic: belief in the scientific enterprise (an enterprise which they take to involve a commitment to determinism) is incompatible with belief in the existence of free will. This is an example of the second way in which science might be said to leave no room for free will.

In evaluating arguments on the topic, students will need to employ the skill of identifying whether an argument—or a part or premise of an argument—against the existence of free will poses a scientific challenge of the first type or the second type. Importantly, claims against the existence of free will often implicitly depend on a *combination* of these two challenges.

"Leaves no room for"

There is no great mystery about this clause, but it is worth taking a moment to recognize what it means in terms of the strength of the claim being asserted by the topic. Consider an example. A number of scientific studies in "unconscious bias" demonstrate, or purport to demonstrate, that graders exhibit biases along demographic (e.g. racial or gender) lines, evaluating the exact same work more or less favorably depending on cues they are given as to the demographic characteristics of the student presented as having produced it. Suppose that you think that this finding is convincing. You will then think that an activity that may appear to be entirely under the conscious control of a diligent teacher—the assigning of grades to student work—is at least partly influenced by biases that are not being

consciously controlled by that teacher.

However, the topic does not merely ask us whether scientific findings demonstrate that freely willed actions make up a somewhat smaller portion of the typical person's behavior than we may previously have believed. After all, a person might believe that *some* human behavior falls in the category of being an automatic, instinctual, or otherwise non-conscious response. They may even believe that responses of this sort are resistant to conscious attempts to change them. In fact, almost everyone think this about at least some human behaviors (consider, for example, the bodily need to blink one's eyes). Still, none of this necessarily amounts to believing anything like the claim that human behavior *in general* is automatic, instinctual, or otherwise not consciously controlled. It is this general belief that is really at the heart of our topic.

The topic raises a general and strong challenge to the existence of free will: it asks us to consider whether a proper appreciation of science (its experimental findings, its foundational principles, and so on) is fundamentally incompatible with—that is*, leaves no room for*—the existence of free will.

Of course, one might think that scientific findings about a particular aspect or segment of human behavior teach us (or, are at least *suggestive* of) a deeper truth about human freedom *in general*. There is certainly room to debate claims of that type within the confines of the topic. It is simply worth noting that some additional argument is needed to move us from the *weaker* claim that science teaches us that *some* human behavior falls outside the scope of free will to the *stronger* claim—the one at issue in the topic—that science *leaves no room* for free will.

"Free Will"

"Free will" is the trickiest term in our topic to define. In fact, in debates about the existence of free will—in the academic literature, as well as in the culture at large—it is as often the *meaning* of free will that is in dispute, as it is the evidence of whether "free will" exists. In your research on the topic, you will even find disputes between authors who essentially *agree* about the set of evidence that is relevant to assessing the existence of free will, mostly agree also about their evaluation of that evidence, and yet end up *disagreeing* about whether to conclude that we have free will. What they are disagreeing about, in short, is what it really means to say that we have free will. Accordingly, successfully debating our topic involves not only being able to analyze and argue the evidence about the relationship between science and free will, but also being able to analyze and argue about what we really mean when we talk about "free will."

There are a variety of views about the meaning of "free will" as a term, but as a start it is helpful to divide these views into three main camps. One way to think about the dispute between these three camps is that they differ in their view of how strong a conception of *freedom* is at play in free will. In other words, what on one view counts as providing for genuine freedom of will looks on another view as if it guarantees only the semblance of freedom, rather than the genuine article. Here are the three views, which I have ordered from least strong to most strong:

The "Rational Deliberation" View

On this view, we should be counted as having free will if we have the ability to act on the basis of our reasoning about what to do. If we can identify cases where we are aware of consciously deliberating about what to do—weighing our reasons for and against a particular action, considering alternatives, and ultimately deciding what to do—, *and* we are able to say that this conscious deliberation was the basis of our performing the action that we decided to perform, then we count as having free will on this view.

Most often, it is taken as an upshot of this view that free will is only possible where we act voluntarily, i.e. without the influence of undue force. In some cases this force might come in the form of external coercion, as it does when we are threatened with violence if we do not take a particular action. In other (more complex and disputed) cases, this force might be internal, as when a person is pathologically compelled to act by a mental illness.

The "Deep Openness" View[3]

On this view, acting on the basis of a conscious, reasoned decision is not *sufficient* to count as exercising free will, though it is *necessary*. What is required in addition is that, when you make a conscious, reasoned decision about what to do, it must be genuinely possible for you to make a *different* decision, *given everything as it is at the time you make the decision*. Here "everything" has a very broad meaning that includes things like your conscious state of mind, goals, thoughts, and emotions, but also things like your brain states, upbringing, social context, and physical environment, *and even* the state of the universe and its history as a whole. That dramatic list should make it clear that this view asks us to prove more about the robustness of our decision making abilities in order to count as having demonstrated that we have free will.

The "Reason as a Non-Natural Cause" View

The final view is the most difficult to explain. It starts by taking seriously an insight of the first view: the ability to act on the basis of conscious reasoning and decision making is central to the idea of free will. However, this view maintains that possessing the ability to act on the basis of conscious reasoning involves a good deal more than one might initially think. Consider what we mean by "reasoning" and why we think that the process of reasoning is a manifestation of our freedom. On its face, the process of reasoning about what to do involves the consideration of *arguments* about what to do, the acceptance of some of those arguments because we believe we have sufficient reason to endorse them as good arguments, and, ultimately, the decision to act in some way because we have reasoned that it is the best way to act. It makes sense that I view the process of reasoning (and resulting course of action) so described as expressing my freedom: throughout the process, I am making up my mind about what I believe I should do. The conclusion of this process—my decision about how to act—entirely reflects what I think. In short, my action reflects *me* and *my decisions*. It is the manifestation of a sort of mental freedom, of a mental realm in which I am running the show.

What does all of this have to do with the idea of "reason as a non-natural cause"? That phrase is difficult to grasp; it invokes the very abstract idea of different types of "causes." We can understand this idea in terms of different uses of the word "because." For example, I might say, "The tree fell down *because* an especially strong gust of wind blew it over." I mean that the force of the wind explains why the tree fell to the ground. I might also say, "I went to the gym *because* I want to become healthier." I mean that my wanting to become healthier explains why I went to the gym. These two statements appear to have a similar structure, but we might think that the statements offer two fundamentally different types of explanations. In the case of going to the gym, my action is explained by my thinking that it is good, proper, or desirable that I go to the gym because I think that doing so will contribute to my being healthier. Hopefully, if I did *not* think that, then that explanation of my action would be a false one. In the case of the fallen tree, however, what is good, proper, or desirable has nothing to do with it. Climatological conditions explain the wind, and the force exerted by the wind on the tree explains the tree falling down. All of that will hold true regardless of whether anyone thinks that it is good, proper, or desirable that the wind blows over the tree. We might register this difference in *type* of explanation by saying that the falling of the tree is explained solely by the forces of nature, whereas my action is explained, in part, by a rational cause—a cause that produces its effect *because* I endorse the desirability or goodness of it. On this view, then, rational causes are distinct from natural causes, and our ability to think of our actions as a reflection of our freely reasoning about what to do depends on this distinction. If we cannot think of our reasoning as a distinctive sort of explanation of our actions, then it may appear that we are deciding what to do when we reason about what to do, but ultimately we are like the fallen tree: blown around in our own minds by forces that operate on us independently of whether we think that they should.

This view is sometimes discussed as the view that, if human beings possess free will, then it must be because human beings have something called a soul. This terminology makes some sense, but for our purposes, it might misleadingly bring to mind unnecessary religious or spiritual commitments. As we have seen, proponents of this view might be motivated by considerations that have nothing to do with religious or spiritual beliefs. Accordingly, a more precise way of describing this view might be to say that it makes the following claim: if human beings possess free will, then it must be because human beings have the ability to cause themselves to act in a certain way (to use

an awkward phrase) *because* they have rationally concluded that they should act in that way. In other words, “free will” is the name for a being’s ability to cause something to happen, at least in part, by *force of reason*, rather than merely by a force of nature.

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Now that we have three candidate views of what “free will” involves, it is natural to wonder which view we should adopt in setting the terms for debate about the topic. In other words, how should students go about arguing for one or another view of what the term “free will” means in the context of our topic. Obviously, this area of argument is an important one for students to engage in. Without making a decision about which view of free will to adopt, we will not be in a position to say whether any given argument in the debate counts as evidence either in favor of the existence of free will, or in favor of a scientific disproof of its existence. For, how could we say *that* if we do not even know what the term “free will” means, i.e. unless we know what abilities a person needs to possess in order for us to be willing to affirm that they possess free will?

Each of us *could* consult our own intuitions about what is involved in free will. Upon reflection, we all probably have feelings about the matter, and these feelings likely point us in the general direction of one of our candidate views. This is certainly not a bad place to *start*. However, it is not a promising place to *end*, since it leaves us without a way forward in any case where there is a disagreement of intuitions among the participants in a discussion or debate. Here are three other ways that we might approach the question of what we should understand the term “free will” to mean:

(1) We could look to survey studies of what people (people who are not selected on the basis of being participants in academic debates about free will) ordinarily think the term “free will” means. Believe it or not, there is a body of literature that speaks to this question. See Mele 2012, Monroe and Malle 2010, and Nahmias and Thompson 2014.

(2) We could reflect on the role that the concept of free will plays in our individual, interpersonal, social, and political lives. The beliefs that we have about free will shape our views of personal responsibility, character education, criminal justice, luck and merit, and so on. To take one example: if you believe that, at least in some cases, criminals ought to be punished because their choices *deserve* retribution, then you probably believe that those choices were manifestations of the criminal’s free will in some sense. Accordingly, we can ask: what view of free will do we need to operate under in order to preserve or justify other commonly held views (about criminal justice, for example)? Asking questions like this one is a good way to check whether adopting a particular understanding of the term “free will” for the purposes of debate will make the outcome of that debate *significant* or *interesting* in terms of our life. If we show that science leaves room for “free will,” but only on a definition under which our belief in “free will” is insufficient to warrant any of our other closely held beliefs about, say, personal responsibility, then this will not be a very informative result; for, *that* sense of “free will” apparently does not really matter to us.

(3) We could argue for one of the views of free will by arguing that the other views in fact *depend* on it, so that the other views cannot be understood as plausible alternatives to it. Relatedly, we could argue against a view of free will by arguing that it is incoherent, or otherwise fails by its own lights. This argumentative route is best understood by looking at examples of it. Here is one. Recall that on the first view of free will, we count as having free will if we have the ability to consciously reason about what to do and to act on the decision that we make as a result of that conscious reasoning. On the second view, this is not enough. We also need to be able to say that we could have made a different decision, even if everything aside from that decision remained the same. Now, proponents of the second view tend to argue that what the first view requires—conscious reasoning and acting on the basis of that reasoning—is not something we can genuinely have, *unless we have free will understood as the second view defines it*. They reason that if we could not have made a different decision, even if everything else about us and the world remained the same, then we were never *really* consciously deliberating about our decision at all. It may have seemed to us that we were carefully considering which of several alternative actions to take, but in fact we had no choice in the matter—we *had* to make the decision that we made. If this argument is correct, then the first view of free will is not a competitor to the second view of free will, since we could never count as having free will in the first

sense unless we counted as having it in the second sense. From the perspective of any of the views of free will, one could make arguments that the other views either depend on that view, or that the other views are incoherent in a way that that view is not.

Common terms in the literature

Before turning to a brief outline of arguments on each side of the topic, we should go over the meaning of a few technical terms that are not present in the wording of the topic itself, but that you will likely encounter as you research it.

Above, we encountered the term ***determinism*** and defined it as the view that the complete description of the universe at any point in time combined with a complete set of the laws that govern the natural universe entails a complete set of everything that is true about the universe (including, therefore, everything that has ever happened and everything that *will* ever happen).

You will no doubt encounter the names of three different positions about the question of whether science leaves room for free will: compatibilism, incompatibilism, and libertarianism. We can define each of these positions according to their view of determinism and what consequences determinism (if true) has on the existence of free will. ***Compatibilists*** maintain that the truth of determinism *does not* rule out the existence of free will. Compatibilists often also believe that determinism is false, but their central point is that, even if determinism is true, it does not threaten free will. In contrast, ***incompatibilists*** believe that, if determinism is true, then free will does not exist. Some incompatibilists believe that determinism is true and free will does not exist. ***Libertarians*** are incompatibilists who believe that determinism is false and that free will exists.

As you encounter additional unfamiliar terms in the course of your research, a good reference for quick and reliable definitions is Haggard, Mele, O'Connor, and Vohs 2015, which is a lexicon of terms as they are commonly used in debates about free will. This lexicon includes a number of technical terms that you likely will not need to know, so it is best used as a reference to consult when you encounter terms you would like defined, rather than as a source to begin by reading straight through on its own.

A brief overview of arguments on each side

As you begin your research on our topic, it might help to bear in mind some basic varieties of arguments on each side of the topic. This will help you watch out for relevant arguments as you look at the suggested materials. Later, we will examine these arguments in significantly more depth. For the moment, the goal is only to provide you with initial guideposts as you begin your own research and thinking about the topic.

Considerations on the Affirmative: Science leaves no room for free will

- Naturally, the higher the bar is set for demonstrating that we have free will, the easier it is to prove that science leaves no room for free will. Accordingly, it makes sense for the affirmative to argue that a robust set of conditions must be met in order to prove that we have something that amounts to "free will." Thus, it is in the affirmative's interest to argue for one of the stronger views (outlined above) of what "free will" means. Of course, it also make sense for the affirmative to argue that, even on weaker views of free will, science leaves no room for free will.

- There are a variety of neuroscientific studies that purport to demonstrate that our decisions are the product of brain activity of which we are unaware. These studies use electroencephalogram (EEG) or functional magnetic resonance imaging (fMRI) technology to monitor subjects' brain activity as they are asked to make decisions. The studies claim to demonstrate that brain activity that corresponds to the "decision" to take action is detectable prior to subjects reporting having made a conscious decision. If you would like to make arguments on the basis of these experiments, it is critical that you familiarize yourself with the details of their methodology. It is also critical that you be prepared to defend not only the *data* produced by the experiments, but also the researchers' *interpretation* of that data.

- There are also relevant studies of human behavior from the perspective of social psychology. These studies vary greatly in format and subject matter, but their point of commonality is that they identify ways in which factors outside of a person's control, and perhaps even outside the scope of their awareness—factors such as a person's environment, social context, and upbringing—significantly shape their conduct. Again, you should be prepared to speak about not only the conclusions drawn by the authors of these studies, but also to their methodology and their reasons for interpreting their data as they did.

- The conclusions that the affirmative can draw from the findings of neuroscience and social psychology will be significantly strengthened if the affirmative is also prepared to argue that general features of science as an enterprise or framework for explaining the world are incompatible with the existence of free will. One form that this argument can take is the claim that scientific explanation entails the truth of determinism. This is an important variety of argument for the affirmative in its own right. However, it also helps provide a favorable context (for the affirmative) for interpreting the experimental findings mentioned above. For example, viewed from the perspective of a general commitment to determinism, a neuroscience study, even if it is imperfect or more limited in its conclusions than the affirmative might hope, looks like a positive step in the direction of providing an explanation of human behavior in a way that eliminates free will from the equation.

- Some opponents of free will argue that the idea of free will is incoherent on its face, either because it is subject to a dilemma. Briefly stated, the purported dilemma is this: either our actions are entirely determined by prior causes outside of our control, or the set of prior causes does not determine our actions. In the former case, our actions are not directed by free will, but rather by a deterministic set of prior causes. In the latter case, we have the opportunity to make a decision, but it appears to be an exercise in random selection, since the decision is left entirely open by every factor. One might argue that a scientific explanation of human behavior that eliminated free will from the picture would avoid this problem, which itself is a symptom of the inability of free will to provide a satisfactory account of any of our behavior.

Considerations on the Negative: Science leaves room for free will

- The negative debater is largely tasked with mounting a defensive maneuver. They need to prove only that nothing about science provides us with sufficient evidence to rule out free will. This is particularly true if the negative can argue for a fairly unambitious view of what free will involves. Accordingly, it might be in the negative's interest to argue for a weaker view of free will (outlined above). On a weaker view of free will, the affirmative has more work to do in order to demonstrate that science leaves no room for free will. Moreover, on a weaker view of free will, we have fairly obvious initial evidence for believing in the existence of free will: our personal experience of regularly making up our minds about what to do. Of course, the negative might also choose to combine this argumentative tactic with the tactic of defending the existence of free will, even under a very strong view of what free will involves.

- A significant part of the negative's defensive task will be to warrant doubts about the design or findings of the studies available to the affirmative. There are several crucial questions to consider here. Do the studies cited by the affirmative prove something about human action *in general*, or do they instead merely demonstrate something about a very particular subset of human actions? Are there alternative ways to explain the data produced by the affirmative's studies—ways that do not eliminate the possibility of free will? Do the studies only seem to threaten the existence of free will because they make unnecessary assumptions about what must be involved in decision making and action?

- Research presented by the affirmative is likely to paint a picture of human life as full of unconscious, automatic behaviors. From the affirmative's point of view, this picture demonstrates that our actions are not manifestations of free will. The negative, however, might offer an alternative interpretation of this picture: much of human behavior involves unthinking, or automatic, responses not because these responses are unfree, but because these responses manifest our deep reliance on both our character and our skills. A person's character and skill in navigating the world are both significantly shaped by a prolonged and continuous attempt to *shape oneself*, with tremendous help from others, of course. If I reach out without thinking to help a stranger who has fallen on the street or to block a ball that is flying at my face, is this evidence that my behavior is automatic (in the sense of being unfree, a product of mysterious forces), or is it evidence that my behavior expresses who I am in a deep sense, a sense that is at least partially reflective of who I have, over time, freely chosen to be?

- We saw that the affirmative can argue that general features of scientific explanation are incompatible with free will. The negative has a counter-claim to make in this area of the debate. The nature of scientific explanation *by itself* cannot threaten the existence of free will, unless we also believe that science is the only legitimate source of explanation of the world, or at least the source of highest authority. In contemporary life, this might be a broadly held belief. However, another possibility is that science speaks with the highest authority about *certain types* of worldly phenomena, but not about *every* type of worldly phenomena. Perhaps there are some phenomena that are undoubtedly *real*, but that must be explained in non-scientific terms (which is not to say *anti*-scientific terms). On the strongest view of "free will" outlined above, human actions are phenomena of this type. Defending this position requires the negative to take on a significant argumentative burden, but it also stands a chance of challenging the affirmative's approach in a very fundamental way—a way that many of the affirmative's arguments many not help them disprove.

Bibliography

- A very good point of entry into our topic would be to read Alfred Mele's *Free: Why Science Hasn't Disproved Free Will* and Sam Harris' *Free Will.* These two texts are short and accessible introductions, and they approach our topic from opposing perspectives.

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[1] However, for a detailed and illuminating discussion of Libet’s experiments, see Mele 2014. For a contrasting interpretation of those experiments, see Harris 2012.

[2] Laplace, Pierre Simon. 1951 (translation). *A Philosophical Essay on Probabilities*. Translated by W.F. Truscott and F.L. Emory. New York: Dover Publications.

[3] This view is commonly taken to be a candidate view of what free will must involve, but I have borrowed the name for it from Mele 2014.